

ABSTRACT OF THE DISCLOSURE

In the non-node, the apparatus neither obtains a self physical\_ID nor transmits a self\_ID packet. Therefore, the apparatus is not recognized as a node in a self-  
5 identification phase. However, the apparatus, but transmits an ident\_done signal received from a child node directly to a parent node. Moreover, when the apparatus becomes a route node in a tree identification phase in the non-node mode, after normal configuration, a PHY  
10 configuration packet output section outputs a PHY configuration packet for resetting an apparatus of another node as a route node. In a normal mode, the apparatus obtains a self physical\_ID and transmits a self\_ID packet. Therefore, the apparatus is recognized as a node in the  
15 self-identification phase.

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